

Social Sustainability in Urban Planning

H.Atalay^{1*}, N. Zeren Gulersoy²

¹Department of Urban Design and Landscape Architecture, Okan University, Tuzla Campus, Akfirat-Tuzla
34959 Istanbul, TURKEY

²Department of Urban and Regional Planning, Istanbul Technical University, Taskısla Campus, Şişli
34437 Istanbul, TURKEY

*Corresponding author: E-mail: hilay.atalay@okan.edu.tr, Tel +90 5363342578

Abstract

The promotion of sustainable infrastructure is a major concern in urban planning. Urban interferences such as urban transformation and urban renewal have been generally limited in the context of rehabilitation of cities' physical structures. Social sustainability in providing urban sustainability has been neglected while physical interferences have been prioritised. In this study, a holistic perspective is used to show the need to address that environmental, economic and social dimension of sustainability. It is emphasised the need to provide social sustainability to ensure sustainability of cities and urban areas under changing conditions. The purpose of this study is to analyse the social sustainability concept in the context of urban sustainability and to determine the principals of social sustainability in the fields of urban development and urban planning (such as equity, diversity, Interconnectedness, quality of life, democracy and management).

In this context, this paper will examine what is needed to provide social sustainability in changing cities. Firstly, it is examined the sustainability concept, it's development and relationship with urban planning. Later, it is explained the concept of social sustainability and show the importance and necessity of social sustainability in the context of providing urban sustainability. In the final stage of the study, the social sustainability principals are identified in the context of conceptual framework.

Keywords: Sustainability, Social Sustainability, Quality of Life; Urban Planning

Conference Topic: "Sustainable Urban Planning & Development".

1. INTRODUCTION

Fast-growing urban areas are being affected by many factors such as climate change, resource depletion, food insecurity, economic uncertainty (Unhabitat, 2009). After the 1980s, the impact of globalisation and new technologies showed different kind of changes in all aspects of life. Economic, political and planning systems that transform with the changes of the cities also brought into fast conversion processes in planning (Unhabitat2008). This process put a lot of pressure on cities in terms of new improvements and transformations (Chohan and Ki, 2005). These cities have experienced deterioration in their physical, economic and social structures. Improving the living conditions in the cities during the process of this change has brought a necessity for providing sustainability.

The concept of sustainability emerged as a solution to the problems come from fast economic and technologic improvements and supported by sustainable urban planning. Today the most important discussion is that in which forms and scope should planning take place for today and the future. While believing that planning could solve many of the problems during the last century, today the

questions is what kind of planning approach can bring permanent and sustainable solutions for today and future (Unhabitat, 2009).

Sustainable development is the complex and dynamic process that links between people and the environment-ecology and required to provide benefits for the society. In this process, the environment-ecology, development and people should be thought in (Manzi et al., 2010). In addition to the environmental and economic requirements, cultural and social values are one of the important needs of future generations as mentioned in Brundtland report (Csanádi, 2011). In 1980s it was focused on physical and economic renewal on the existing cities to respond the changing needs of the rehabilitation of the existing cities. Today, the studies about economic and environmental sustainability have been left behind the understanding of social aspect of sustainable structure. Social sustainability is the least developed part among the other pillars of sustainability (Colantonio and Dixon, 2011).

Especially in developing countries such as Turkey that has experienced rapid urbanisation, historic city centres have become urban ruined due to the pressure of increased population rate. Cities have been changed under the name of urban regeneration / urban renewal. But these changes could not go beyond a part of physical changes. Rehabilitation of deteriorated economic and social structures of urban areas has been ignored.

In this context, this paper analyses the social sustainability concept in the context of urban sustainability and determines the principals of social sustainability in the fields of urban development and urban planning (such as equity, diversity, Interconnectedness, quality of life, democracy and management). The main question of the study is 'What is social sustainability? and what are the basic principles to achieve social sustainability?'

2. SUSTAINABILITY

Sustainability derived from the discipline of economics and was first mentioned by Thomas Malthus two centuries ago. He put attention that the growth rate of the population is not balanced with the natural resources. After the 1980s, the production limitation, environmental instability and the threat of pollution caused by economic growth has led to global problems. These problems led people to think about whether the economic development in the modern route is sustainable or that was asked first time by Maltus (Basiago, 1999).

In 1987, sustainable development has been defined in *Our Common Future*, also known as the Brundtland Report; "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*" (Brundtland Report, 1987). In the conference held in 1992 in Rio de Janeiro, three dimensions of sustainability have been emphasised. Ecology / Physical, Economics / Economic and Equality / Social sub-headings are defined in sustainable urban planning. (Colantonio and Dixon, 2011). Sustainable development is the dynamic and complex process that brings social, cultural, economic and social dimensions together and combined with a strong interdependence between environment and human (Manzi et al., 2010).

In this context, three-pillar model maintains that three components of sustainability defined social development, environmental conservation and economic growth should be given same importance, in other words, achieving three dimensions to provide the necessary coordination of the three components.

In this sense, sustainability as a fundamental theme should undertake social, economic and environmental issues together. Russian doll takes the importance of economic sustainability into consideration to achieve sustainable improvement. However, this model makes social sustainability pillar weaker than others.

Sustainability is the long-term process which determines minimum social requirements and promotes social integration with different cultures. It also encourages the quality of life for all segments of the population (Colantonio and Dixon, 2011). In this process, coordination between the components is necessary to have sustainable cities. In this context, sustainable urban planning intends to provide self-sufficient cities and ensure the continuity of non-renewable resources. For this purpose, the main objectives are listed as follows (Carmona et al., 2008).

- Decrease of private car use and development of effective public transportation
- Reduction of air pollution
- Improvement the quality of life
- Improvement of accessibility
- Reduction Carbon emissions
- Depletion the use of non-renewable resources

A range of commenter and organisations has suggested several principles of sustainable development and design. Suggested principles according to Commission of The European Community (1990) Evans et al. (2001), URBED, (1997), Ian Bentley (1990), Hugh Barton (1996), Graham Haughton-Colin Hunter (1994), Richard Rogers (1997) have been summarised in the Table 1.

Table 1. Principles of Sustainable Development (The source of the table is Carmona et al., 2008, the table is compiled by authors)

Sustainable Cities	
Element	Principles
Ecology	Minimising the waste production and maximising the recycling systems Maximising the use of solar energy and reducing the external energy requires construction Usage of combined heat and power system Maintaining biodiversity Conservation of existing resources Balancing between ecological environment and built-up environment
Physical Structure	Supporting the compact city development and integration of communities within neighbourhoods and maximising the proximity Supporting mixed used Supporting urban renewal in town centres and inner cities Development of urban open and green areas Improving the quality of life Supporting the importance of planting and landscape in reducing the pollution Diversification of the activities and facilities Creating neighbourhoods having different built forms and different building users
Transportation	Providing the effectiveness of public transportation Providing the use of Pedestrian and bike movement systems which are energy effective movement systems Supporting the intensification around transport nodes Reducing travel Creating alternative routes

Spatial Organization	Creating adaptable cities for future
	Supporting the street and square system by routes and spaces
	Creating qualitative, attractive, humanist and scaled urban places
	Designing by using local and natural resources
	Enabling people to understand the layout and activities of a place
	Integration of new and old places
<hr/>	
Society	Enabling the relationship among buildings, streets and open spaces
	Integrated planning system across disciplines and bureaucracy
	Maintaining and sustaining the regional identity
	Providing basic needs of humanity in a sustainable way
	Providing people to participate in government
	Providing people to participate in the design and project development
	Increasing of personal security by design of space and creating safety places as much as possible
	Regarding the history and distinctiveness
	Providing public places to encourage the community and social mobility
	Distributing all services fairly
Improving the quality of life	
Creating a city where justice, food, housing, education, health are fairly distributed and where community participate in government	
<hr/>	

3. SOCIAL SUSTAINABILITY

Social sustainability that is one of the sustainability components concerns relationship between personal actions and built-up environment and also relationship between personal life opportunities and institutional structuring. Social sustainability has been ignored compared to other components of sustainable development in urban planning within the main sustainability discussion.

3. 1. Concept of Social Sustainability

Social sustainability is all people to have all human rights such as political, personal, economical, social and cultural according to Sach (1999). From a different standpoint, the concept of social sustainability can be defined as the maintenance and improvement of well-being of today's generation and next generation. According to Mc Kenzie (2004), the social sustainability is to provide equal access to basic services such as health, education, transport housing and recreation and also equity between generations meaning that future generations will not be disadvantaged by the activities of the current generation. David and Wilson (2009) have suggested social sustainability as a system of cultural relations in which the positive viewpoints of different cultures have value and promoted (Mak and Peacock, 2011). Sustainable communities are equitable, diverse, interconnected, democratic and must have a good quality of life. Social sustainability ensures healthy and liveable communities, now and in the future (Barron and Guantlett, 2002) According to Polese and Stren, social sustainability has been defined as "Growth that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population." Equity, adequacy and safety are needed for a sustainable community. In this context, social sustainability is related to equity and health, participation, needs, social capital, the economy, the ecology, and, more recently, with the notions of happiness, well-being and quality of life concepts (Colantonio and Dixon, 2011).

3. 2. Principles of Social Sustainability

It is needed to define principals of social sustainability in order to provide sustainability in the cities. As it is mentioned in Local Agenda 21, the main criteria of social sustainability are equity, empowerment, accessibility, participation, sharing, cultural identity, institutional stability (Basiago, 1999). In addition to conceptual definitions about social sustainability, the key themes for the operationalization for social sustainability are income equality, equity, democracy, employment, poverty, social justice, safety, empowerment, participation opportunities, basic needs, cultural and social diversity, equitable access to resources and social services. Innovative concepts about social sustainability such as demographic change, social inclusion and mixing, identity, culture and sense of place, participation, accessibility, health and security, social capital, well-being, happiness and quality of life have been taken place of traditional social sustainability key themes such as basic needs, education, skills, employment, human rights and gender issues, equity, poverty and social justice. (Colantonio and Dixon, 2011). In general, principles of social sustainability have become under concepts of equity, diversity, interconnectedness, quality of life, democracy and governess, and these principles can be explained as below (Barron and Gauntlett, 2002).

1. Equity means that the community provides equitable opportunities for all it's members, particularly the poorest and most vulnerable members of the community and it is obvious that equity is main theme and filter for all principles
2. Diversity defines that the community enhances and encourages diversity.
3. Interconnectedness includes the community provides processes, systems and structures that enhance connectedness at the formal, informal and institutional level.
4. Quality of life explains that the community ensures that basic needs are provided and for all members of the community at the different levels such as individual, group and community level, good quality of life must be provided.
5. Democracy and governance mean that the community enables democratic mechanism and open, accountable governance structures.

Social sustainability must be provided for sustainable communities. Basic principles of social sustainability have been explained in the Table 2. The most important principles for creating socially sustainable communities are equity and to meet community's basic needs. Equity basic principle would be succeeded by providing equal opportunities for all members of the society. Understanding the culture of the local people and ensuring their participation in decision-making process, ensuring the equal distribution of all resources without distinguishing class, gender, location and any other variable and equal access to services are the main elements of equity. Basic subjects of diversity are to be respectful for different approaches and different beliefs, to support integration of different cultures and to share the experiments. And also diversity is meant that community has different values about some subjects such as cultural, employment, housing types and activities.

In order to realise interconnectedness of community, it is essential to provide participation in local and regional scale and to create opportunities for participation. Common interests in increasing social cohesion, sense of togetherness including mutual interaction plays an important role for gaining this principle. Quantity and quality of social processes, the structures governing social processes, existence of democratic, public and civil institutions in decision-making process, flexible and transparent social structure and community services meeting the needs of people relationships are the factors that promote the interconnectedness in the community. It is need to provide all people to participate in social and cultural activities that play important tool promoting relations in the community. Promotion of relations in the community is provided by ensuring strong relations through planning and physical infrastructure interventions. The other important factor is that

community have safe open and green areas and to meet the all needs of community such as transportation, housing, facilities and etc.

Sense of belonging makes community feel in safe and promotes sense of embracement about the community's living place. In addition, embracement of natural, historical and cultural features of the regions and promotion of these characters of the regions become possible by the region's natural, historical and cultural character. Sense of safety, sense of relation with nature, Sense of empowerment and responsibility, education, Health, Employment, Income and living standard, housing, having opportunities for personal and social development are the main principals of quality of life for providing social sustainability. Another main principle of social sustainability is democracy and governance. Accessibility of the community to information, knowledge and expertise and open and accountable participation processes makes governance structure democratic.

Table 2. Principles of Social Sustainability (Barron and Guantlett, 2002)

Principals	Principals
Equity	Equal opportunity for all members. Equity for local people. Equity in relation to human rights. Equity in relation to disadvantaged members.
Diversity	The community includes diverse groups. The community values difference
Interconnectedness	The quantity of social processes. The quality of social processes The structures governing social processes Public and civic institution Public services Cultural Activities Planning and physical infrastructure Media and communications Recreation and sport Transportation
Quality Of Life	Sense of belonging Sense of place Sense of self-worth Sense of safety Sense of relation with nature Sense of empowerment and responsibility Sense of self-reliance Good education Health Employment Income and living standard Housing Clean air, soil and water Having opportunities for personal and social development
Democracy and Governance	Community members have access to information, knowledge and expertise Open and accountable participation processes Effective democratic processes and governance structures Integration of democratic processes and governance structures. Accountable democratic processes and governance structures Democratic processes and governance structures incorporate justice and legal rights.

The concept of social sustainability is based on equity, diversity, interconnectedness, quality of life, democracy and governance principals. These principals aim to create a community which has equitable and equal opportunities for all individuals. Cities and communities will be able to be sustainable by providing social sustainability principles in the Table 2.

3. 3. Case Studies- Measuring of Social Sustainability

The first case study is from UK, the Thames Gateway; which is the UK's largest regeneration program, stretching for 40 miles along the Thames estuary from the London Docklands to Southend in Essex and Sheerness in Kent. The Thames Gateway is a place where people choose to live and stay, where businesses choose to locate and where investors choose to invest. It reflects how this project will build on opportunities that offer to the society (Mak and Peacock, 2011):

- Economic opportunity in the key transformational locations
- Housing opportunity to accommodate the region's growing workforce and promote existing conditions for residents
- Employment opportunity in city centres and main regeneration areas, developing the potential in local businesses and brownfield sites
- Environmental opportunity through the creation of the Thames Gateway Parklands and new approaches to address climate change and flood risk
- Community opportunity through investment in education and training, better quality public services and support for inclusive communities.

The second case study is the Sonoma Mountain Village in USA. The site is considered one of the most sustainable communities in the world. This sustainable community compounds design idea for people considering lifestyle, as well as the Earth's natural resources. Sonoma Mountain Village is located 40 miles north of San Francisco and is planned as a mixed-use community. The aim of the development is to design a community to consider its residents and the planet without making any concessions quality of life. The project includes 1,892 dwelling units. The project site is located on the former industrial business technology park, and this development includes adaptive reuse of the existing industrial business park buildings to contain a mix of residential, office and retail/commercial uses (Mak and Peacock, 2011).

The fifteen principals are used to measure the social sustainability level of the case studies. The case studies are compared according to Table 3. The scoring system in table 3 shows the level of social sustainability considerations according to Mak and Peacock, 2011. The scores are obtained from a textual analysis and measured from projects sources (Mak and Peacock, 2011). For the comparison, degree of social sustainability principals is measured between one and five. For the case studies, obtaining score of five means that, all factors contained within that particular social sustainability consideration would be required. On the other hand, obtaining score of one means, there is no direct reference to that social sustainability consideration from the sources of references (Mak and Peacock, 2011).

Table 3 shows the scores of social sustainability considerations in the case studies. According to concept of sustainability, it is seen that all two projects have achieved average in sustainability. It can be said that the score of the combination of three sustainability fundamentals is better in the UK case study than in USA case study. Two case studies meet the perspectives of social sustainability. It is seen that the case study in the USA has more environment-oriented approach in comparison with the UK case study. It is obvious that UK case study is more people and development orient than the USA case study.

In two case studies, meet basic needs and equity - fundamental pillars of social sustainability. Besides, in the UK case study, it is needed to bring together individuals, communities and societies

to live with each other. In the table 3, it is seen that equity of access to key services in UK gets maximum score, which means that the site gives equal service to everyone. In the USA case study, urban environment is designed as a space to fulfil social needs. It can be seen from the table, UK case study is better to assist local communities, especially it is very good at individuals' interactions with the built elements and urban developments create harmonious living environment. The UK case study has great performance to identify all the goals of social sustainability. Significant success to provision of social infrastructure, availability of job opportunities, accessibility, townscape design, preservation of local characteristics, ability to fulfil psychological needs are succeed in the UK case study and also in the USA case study.

Table 3. Social Sustainability Considerations Scores of the Case Studies (Mak and Peacock, 2011)

Social Sustainability Considerations	UK	USA
(A) Concept of Sustainability		
1. Meets the needs of the present without compromising the ability of future generations	3	4
2. Combination of three sustainability fundamentals	4	5
3. Relationship between the environment, social and economic spheres	4	3
<i>Total</i>	<i>11</i>	<i>12</i>
(B) Perspectives of Social Sustainability		
4. Development-oriented perspective	5	4
5. Environment-oriented perspective	4	4
6. People-oriented perspective	5	3
<i>Total</i>	<i>14</i>	<i>11</i>
(C) Key Themes to Social Sustainability		
7. Basic needs and equity - fundamental pillars of social sustainability	4	4
8. Individuals, communities and societies live with each other	1	5
9. Equity of access to key services	5	3
<i>Total</i>	<i>10</i>	<i>12</i>
(D) Dimensions to Assist Local Communities		
10. Urban environment as a space to fulfil social needs	3	5
11. Individuals' Interactions with the built elements		
12. Continued feasibility, health and performance of society as a communal entity	2	1
	4	3
13. Urban developments create harmonious living environment	3	1
<i>Total</i>	<i>12</i>	<i>10</i>
(E) Goals of Social Sustainability		
14. Goals: equity, diversity, interconnectedness, quality of life, democracy and governance	5	3
(F) Significant Success Factors		
15. Significant success factors: provision of social infrastructure, availability of job opportunities, accessibility, townscape design, preservation of local characteristics, ability to fulfil psychological needs	5	4
TOTAL SCORE	57	52

4. CONCLUSION

Interventions in urban areas, social sustainability, has been ignored compared to other physical improvements. Ignoring the social dimension of sustainability has caused inequality and insecurity problems. During the process of urban regeneration, historical districts and historical urban centres have been the most affected areas in terms of social changes. In developing countries, planning mainly has focused on changing just the urban environment and ignoring the social aspect of sustainability.

From this point of view, three components of sustainability is needed to be achieved coordinated and interactive. The need of providing social welfare and sustainability in urban rehabilitation, regeneration studies has been emerged because of the fact that the planning system generally focuses on physical or economical components. In this sense, it is required that the principals of social sustainability should be provided and coordinated with other components of sustainability. In addition, these social sustainability principals will help to measure sustainability of the communities. After measuring these indicators, the results will be the guides to develop and design projects for achieving sustainability by holistic approach.

From this point of view, comparison of the case studies showed that which social sustainability considerations could be used to measure social sustainability of the cities. It is seen that both case studies have similarities, disparities and different references for social sustainability principles.

USA project minimises the environmental footprint and increase the recycling for products in construction and in daily life. Besides these, development of village, street pattern, green areas, etc. are designed based on pedestrians and cyclist to decrease the usage of cars. From the perspective of social sustainability, UK case study increases social mixing, engage the community individuals and reduce poverty. According to key themes of social sustainability, two case studies take note of cultural empowerment, participation, access, social mix, demographic change. Besides, it is seen that UK case study proposals cannot achieve to engage individuals, communities and societies live with each other. USA case study shows that urban environment as a space to fulfil social needs have been achieved better than UK case study. On the other hand, UK development achieves to create harmonious living environment and case study gives proposal to increase quality of life by social and physical design of the site. Both case studies have strong references to achieve goals of social sustainability.

In this sense, results of the case studies determine the weak and strong considerations of social sustainability. Within these results, new proposal for both case studies can be developed to increase social sustainability for the further urban planning decisions.

References

1. Barron, L. ve Gauntlett, E., 2002. *Stage 1 Report -Model Of Social Sustainability, Housing And Sustainable Communities Indicators Project*, Western Australia.
2. Basiago, A.D., 1999. Economic, social, and environmental sustainability in development theory and urban planning practice, *The Environmentalist* **19**, 145-161.
3. Carmona M., Heath, T., Oc, T., Tiesdell, S., 2008. *Public Places- Urban Spaces, The Dimensions of Urban Design*, Architectural Press, United Kingdom.
4. Chohan, A.Y. and Ki, P.W., 2005. Heritage Conservation a tool for Sustainable Urban Regeneration: A Case study of Kaohsiung and Tainan, Taiwan, *41th ISOCARP Congress*, 17-20 October, Bilbao.
5. Csanádi, G., Csizmady, A., Olt, G., 2011. Social Sustainability and Urban Renewal on the Example of Inner-Erzsébetváros in Budapest, *Society and Economy* **33**, 99–217 doi:10.1556/SocEc.33.2011.1.14.
6. Colantonio, A. and Dixon, T., 2011. *Measuring Socially Sustainable Urban Regeneration in Europe*, Wiley-Blackwell Publication, UK.
7. Mak, M.Y. and Peacock, J.C. 2011. Social Sustainability: A Comparison of Case Studies in UK, USA and Australia, *17th Pacific Rim Real Estate Society Conference*, Bond University, 16-19 January, Australia.
8. Manzi, T., Lucas, K., Lloyd-Jones, T., Allen, J., 2010. *Understanding Social Sustainability: Key Concepts and Developments in Theory and Practice*, (Eds. T., Lucas, K., Lloyd-Jones, T., Allen, J.), Social Sustainability in Urban Areas, Earth Scan Publications, London.
9. Littig, B. and Grießler, E., 2005. Social sustainability: a catch word between political pragmatism and social theory, *International Journal of Sustainable Development* **8**, 65-79.
10. Omann, I. and Spangenberg, J.H., 2002. Assessing Social Sustainability-The Social Dimension of Sustainability in a Socio-Economic Scenario, *The 7th Biennial Conference of the International Society for Ecological Economics*, Sousse (Tunisia), 6-9 March.
11. Unhabitat, 2008. *Best Practices On Social Sustainability In Historic Districts*.
12. Unhabitat, 2009. *Planning Sustainable Cities*, Earthscan, London.